SEALING AIR LEAKS

Once you've conducted one or more of the tests to detect air leaks, you've likely found some cracks or gaps around your house. You can begin by using weatherstripping to seal many of the leaks. Although there a variety of types of weatherstripping available (see DOE's examples here), many of the different varieties are fairly easy to install. Here are some basic guidelines that can help you if you decide to weatherstrip your home. Be sure to consult the instructions on the package before installing.

1. To determine how much weatherstripping you need, add the perimeters of all windows and doors and other areas that you want to weatherstrip, then add about 5-10% to factor in any waste or errors.
2. Use the chart from the Department of Energy to determine what kind of weatherstripping is right for you and your home.
3. Be sure to apply any weatherstripping to clean and dry surfaces.
4. Follow the old adage: measure twice, cut once.

Insulation

Without proper insulation in your home, you could waste a significant amount of energy. Refer to the steps below to help you make the energy you're paying for each month go further.

❖ Insulating Your Water Heater Tank

It's fairly simple and inexpensive to insulate an electric water heater tank, however, if yours is gas- or oil-fired you may want to hire a qualified plumbing and heating contractor.

To insulate an **electric water heater tank,** you can use a pre-cut jacket or blanket, which you can purchase at most home improvement stores. You may also want to check with your utility provider as some utilities offer discounts, rebates or free installation of insulation blankets. When choosing a pre-cut blanket (or jacket), look for one with an insulating value of at least R-8 or higher. An R-value is the measure used in the building and construction industries for insulation.

Below are directions from the Department of Energy on installing a pre-cut jacket or blanket on your water heater. If the insulation you've purchased includes directions, please follow them.

1. Cut the tank top insulation to fit around the piping in the top of the tank. Tape the cut section closed after the top has been installed.
2. Fold the corners of the tank top insulation down and tape to the sides of the tank.
3. Position the insulating blanket around the circumference of the tank. For ease of installation, position the blanket so that the ends do not come together over the access panels in the side of the tank. Some tanks have only one access panel.
4. Secure the blanket in place with the belts provided. Position the belts so they do not go over the access panels. Belts should fit snugly over the blanket but not compress it more than 15%–20% of its thickness. The installation is easier with two people. If working alone, use tape to hold the blanket to the top until you get the belts into position.
5. If your water heater has the temperature/pressure relief valve and the overflow pipe on the side of the tank instead of on the top, install the blanket so these items are outside of the blanket.

Depending on the piping arrangement and location, you may need to compress (or even cut) the blanket.

6. Locate the four corners of the access panel(s). Make an x-shaped cut in the insulating blanket from corner to corner of each access panel.
7. Fold the triangular flaps produced by the cuts underneath the insulating blanket. Repeat steps 6 and 7 for the rating/instruction plate.

Note: The blanket must not be installed on a leaking tank. If your tank leaks, you may need a new water heater. Also, make sure the thermostat is set under 130 degrees to avoid the wiring overheating.

❖ Insulating Hot Water Pipes

If you insulate your hot water pipes, you can reduce heat loss. Insulated hot water pipes can make your water temperature 2-4 degrees warmer than un-insulated pipes. Insulating pipes can also help you conserve water by shortening your wait for hot water.

The Department of Energy recommends insulating all accessible hot water pipes, especially those within three feet of the water heater. You may also want to insulate the first three feet of your cold water inlet pipes.

Your home improvement store may sell **pipe sleeves**, which are fairly easy to install. If you choose a pipe sleeve:

1. Measure the outside diameter of your pipe.
2. Match the inside diameter of the pipe sleeve to the outside diameter of the pipe to ensure a snug fit.
3. Place the pipe sleeve onto the pipe with the seam face-down.
4. Every foot or so, tape, wire or cable-tie the sleeve to the pipe.

Note: On gas water heaters, keep insulation at least six inches away from the flue. If pipes are within eight inches of the flue, use fiberglass pipe-wrap at least one-inch thick without a facing, and use either wire or aluminum to secure the insulation to the pipe.

❖ Insulating Windows

Energy-efficient windows can help minimize the cost of heating and cooling your home, and can make your home more comfortable. Even if a full window-upgrade isn't in your budget, you can take simple, less-costly measures to improve the performance of your existing windows.

Adding **storm windows** can help reduce heating and cooling costs by limiting air movement into and out of existing windows. There's a wide selection of storm windows available, from inexpensive plastic sheets to more expensive glass or plastic panels.

The Department of Energy generally recommends interior storm windows as they are more convenient, more effective, and are easier to install and remove. For more information on types of storm windows and their benefits, visit DOE's site.

When installing storm windows, follow all instructions on the packaging.